Volume 43 1995: Contents ISSN 1071-5819

International Journal of Human–Computer Studies

Editor
B. R. Gaines

Editorial Board

T. R. Addis	N. Cooke	G. Klinker	N. Shadbolt
S. Abu-Hakima	M. J. Coombs	D. Lenat	M. L. G. Shaw
R. Agarwal	A. Dillon	M. Linster	B. G. Silverman
P. Barker	E. A. Edmonds	E. H. Mamdani	D. Sleeman
D. Boehm-Davis	K. S. Eklundh	C. McKnight	G. A. Sundstrom
J. H. Boose	J. G. Ganascia	A. Monk	A. G. Sutcliffe
J. A. Breuker	T. R. G. Green	K. Morik	H. W. Thimbleby
R. Brooks	S. Greenberg	H. Motoda	S. Treu
S. Carberry	T. Gruber	M. Musen	A. S. Vinze
J. M. Carroll	N. Guarino	K. L. Norman	S. Wiedenbeck
D. Chandrasekaran	M. Harrison	S. Payne	B. Wielinga
P. Compton	D. R. Hill	B. Shackel	I. H. Witten

ACADEMIC PRESS
London San Diego New York Boston Sydney Tokyo Toronto

Copyright © 1995 by Academic Press Ltd.
ALL RIGHTS RESERVED
No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain

Contents of Volume 43

NUMBER 1, JULY 1995

Edwards, M. B., Fuller, D. K., Vortac, O. U. and Manning, C. A. The role of flight progress strips in en route air traffic control: a time-series analysis 1

Grissom, S. B. and Perlman, G. StEP(3D): a standardized evaluation plan for three-dimensional interaction techniques 15

Sleeman, D., Rissakis, M., Craw, S., Graner, N. and Sharma, S. Consultant-2: pre- and post-processing of Machine Learning applications . 43

Kitajima, M. and Polson, P. G. A comprehension-based model of correct performance and errors in skilled, display-based, human–computer interaction 65

Blandford, A. E., Harrison, M. D. and Barnard, P. J. Using Interaction Framework to guide the design of interactive systems 101

Ball, L. J. and Ormerod, T. C. Structured and opportunistic processing in design: a critical discussion 131

NUMBER 2, AUGUST 1995

Brewster, S., Wright, P. C. and Edwards, A. D. N. Parallel earcons: reducing the length of audio messages 153

Mengshoel, O. J. A reformulation technique and tool for knowledge interchange during knowledge acquisition 177

Napier, R., Laverty, W., Mahar, D., Henderson, R., Hiron, M. and Wagner, M. Keyboard user verification: toward an accurate, efficient, and ecologically valid algorithm 213

Nass, C., Moon, Y., Fogg, B. J., Reeves, B. and Dryer, D. C. Can computer personalities be human personalities? 223

Ford, N. Levels and types of mediation in instructional systems: an individual differences approach 241

Floridi, L. Internet: which future for organized knowledge, Frankenstein or Pygmalion? 261

Bulletin 275

NUMBER 3, SEPTEMBER 1995

Editorial 279

Amann, B., Scholl, M. and Rizk, A. Schema-based authoring and querying of large hypertexts 281

Nørmark, K. and Østerbye, K. Rich hypertext: a foundation for improved interaction techniques 301

8 553HI XL 1256
11/96 31249-150 NULB

Gaines, B. R. and Shaw, M. L. G. Concept maps as hypermedia components 323

Nanard, J. and Nanard M. Adding macroscopic semantics to anchors in knowledge-based hypertext 363

Lieberman, H. A demonstrational interface for recording technical procedures by annotation of videotaped examples 383

Wang, W. and Rada, R. Experiences with semantic net based hypermedia 419

Zizi, M. and Beaudouin-Lafon, M. Hypermedia exploration with interactive dynamic maps 441

Madigan, D., Chapman, C. R., Gavrin, J. R., Villumsen, O. and Boose, J. H. Repertory hypergrids for large-scale hypermedia linking . 465

Salton, G. and Allan, J. Selective text utilization and text traversal . . 483

Bulletin 499

NUMBER 4, OCTOBER 1995

Konradt, U. Strategies of failure diagnosis in computer-controlled manufacturing systems: empirical analysis and implications for the design of adaptive decision support systems 503

Swigger, K. M. and Brazile, R. Evaluating group effectiveness through a computer-supported cooperative training environment 523

Chandra, S. and Blockley, D. I. Cognitive and computer models of physical systems 539

De Carolis, B., De Rosis, F. and Errore, S. A user-adapted iconic language for the medical domain 561

Mahar, D., Napier, R., Laverty, W., Henderson, R. D., Hiron, M. and Wagner, M. Optimizing digraph-latency based biometric typist verification systems: inter and intra typist differences in digraph latency distributions 579

Bridges, S. M. A model for justification production by expert planning systems 593

Erratum 621

NUMBER 5/6, NOVEMBER/DECEMBER 1995

Editorial 623

Guarino, N. Formal ontology, conceptual analysis and knowledge representation 625

Smith, B. Formal ontology, common sense and cognitive science . . 641

Sowa, J. F. Top-level ontological categories 669

Poli, R. Bimodality of formal ontology and mereology 687

Cocchiarella, N. B. Knowledge representation in conceptual realism . . 697

Eschenbach, C. and Heydrich, W. Classical mereology and restricted domains 723

Petitot, J. Sheaf mereology and Husserl's morphological ontology . . 741

Link, G. Algebraic semantics for natural language: some philosophy, some applications 765

Dölling, J. Ontological domains, semantic sorts and systematic ambiguity . 785

Dahlgren, K. A linguistic ontology 809

Hobbs, J. R. Sketch of an ontology underlying the way we talk about the world 819

Cohn, A. G., Randell, D. A. and Cui, Z. Taxonomies of logically defined qualitative spatial relations 831

Terenziani, P. Towards a causal ontology coping with the temporal constraints between causes and effects 847

Gerstl, P. and Pribbenow, S. Midwinters, end games, and body parts: a classification of part–whole relations. 865

Bonfatti, F. and Pazzi, L. Ontological foundations for state and identity within the object-oriented paradigm 891

Gruber, T. R. Toward principles for the design of ontologies used for knowledge sharing 907

Bateman, J. A. On the relationship between ontology construction and natural language: a socio-semiotic view 929

Pirlein, T. and Studer, R. An environment for reusing ontologies within a knowledge engineering approach 945

Information for authors

The *International Journal of Human–Computer Studies* is published monthly. Papers are acceptable on: human–computer interaction; the person–computer interface; mathematical and engineering approaches to the study of people; artificial intelligence approaches to the development of computing. Typical subjects include: intelligent user interfaces; natural language interaction; human factors of multimedia systems; human and social factors of virtual reality; human and social factors of world-wide web; human and social factors of software engineering; computer-supported collaborative work; speech interaction; graphic interaction; knowledge acquisition; knowledge-based systems; hypertext and hypermedia; user modeling; empirical studies of user behaviour; the psychology of programming; systems theory and foundations of human–computer interaction; user interface management systems; information and decision-support systems; requirements engineering; innovative designs and applications of interactive systems. Potential authors should examine previous issues of the journal to assess both the type of material covered and the style in which it should be presented for publication. It is expected that authors of submitted papers will also be willing to act as referees for other papers in their area.

Submission of manuscripts Manuscripts should be written in English (with UK or US spelling) and sent to: Editorial Board, IJHCS, Academic Press Limited, 10d St Edwards Passage, Cambridge CB2 3PJ, UK. Six copies of the manuscript and figures should be submitted.

The submitted manuscripts should follow the style for final manuscripts below, except that they may be single-spaced with embedded figures. In particular, the citations should be by author; year-numbered citations are not acceptable for refereeing purposes. Papers are not anonymous for refereeing.

Final manuscripts

Cover Page—a cover page should be supplied giving the person and address for correspondence, proofs and reprints. An electronic mail address, if available, should also be given.

Format—papers should be typed double-spaced throughout, including tables, footnotes, references and legends to tables and figures. One side of the paper only should be used and there should be a margin of at least 2·5 cm all round. The position of tables and figures should be clearly indicated, in sequence, in the margin. Tables, footnotes and legends to figures should be typed separately. Where it is essential for clear cross-referencing, particularly in mathematically-oriented material, paragraphs and sub-paragraphs may be numbered, and the decimal system should be used, i.e. 1, 1.1., 1.1.2., etc. A short running title of not more than 40 characters (including spaces) should be indicated if the full title is longer than this. The name of the laboratory and the full postal address where the work has been carried out should be indicated on the title page. The full postal address for the despatch of proofs and offprints should be included on a separate page. Upon acceptance of the manuscript the top copy and the original illustrations should be submitted for publication.

Affiliation—the authors names, full addresses for postal correspondence and email addresses should appear immediately after the title.

Summary—a summary will be printed at the head of all papers: this should not exceed 300 words, and should be intelligible to the general reader without reference to the main text. Abbreviations should be avoided.

Conventions References should be listed alphabetically at the end of the paper with the title of the journal in full. Citations in the text should read: Brown, Smith and Robinson (1973). When there are more than two authors, all names should be given when first mentioned and subsequently thus: Brown *et al.* (1973). The convention Brown (1973*a*), Brown (1973*b*) should be used where more than one paper by the author has appeared in the same year. Authors are responsible for checking the accuracy of all references and that all references cited in the text also appear in the list of references at the end of the paper. Examples of the style to be used are:

STEVENSON, P. W. (1973*a*). An automated system for speech audiometry. *Journal of Phonetics*, **2**, 104–116.

SMITH, J. L. & ROBINSON, B. R. (1967). The retina. In S. M. HUGHES & A. J. THOMPSON, Eds. *Eye and Brain*, Vol. II. pp. 109–111. London: Weidenfeld & Nicolson.

Abbreviations Abbreviations and acronyms should be avoided. Authors are recommended to employ Système Internationale (metric) units. Special and unusual symbols should be clearly identified.

Preparation of illustrations Original drawings should be submitted, in a form suitable for publication without retouching or redrawing. When submitting illustrations it should be borne in mind that the page area is 250 × 176 mm and that computer output and program listings cannot be reduced by more than 20% before the clarity of the image is affected. Authors are requested to use the reverse side of the printout paper and to ensure that conditions, generally, are such as to assist maximum clarity in reproduction. Photographs will be accepted only if the information cannot be presented easily in any other form. Explanations and keys should, as far as possible, be placed in the legends.

Copyright/Offprints Authors submitting a manuscript do so on the understanding that if it is accepted for publication, exclusive copyright in the paper shall be assigned to the Publisher. In consideration for the assignment of copyright, the Publisher will supply 50 offprints of each paper. Further offprints may be ordered at extra cost; the copyright assignment form and the offprint order form will be sent with the proofs. The Publisher will not put any limitation on the personal freedom of the authors to use material contained in the paper in other works which may be published.